



Log #485B
H-486

National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Date: March 3, 1987

In reply refer to: H-87-4 and -5

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Director
Ozark Christian Schools, Inc.
P. O. Box 398
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On September 13, 1985, an intercity church bus left the Ozark Bible Institute in Neosho, Missouri, en route to Eureka Springs, Arkansas, a trip of approximately 66 miles. The bus was transporting 41 passengers (ages 17 to 66), mostly students of the Ozark Bible Institute. About 7:30 p.m., the bus was about 3 miles outside Eureka Springs, descending a 7 percent mountainous grade southbound on State Route (S.R.) 23, a rural, two-lane, undivided highway. While traveling through a left curve, the bus struck a signpost on the left side of the roadway, veered across to the right side of the roadway and struck another signpost, left the right side of the roadway, and then traveled about 150 feet down a wooded hill until the front axle struck a large boulder. The bus rotated clockwise, and overturned onto its right side before coming to rest. Of the nine occupants who were ejected, the driver and four passengers sustained fatal injuries. Twenty passengers sustained minor to critical injuries, and 17 passengers reported no injuries. 1/

The postaccident inspection revealed that the left front service brakes (type-24 brake chamber) 2/ and the left rear service brakes (type-30 brake chamber) were improperly adjusted. The pushrod stroke on the left rear brake exceeded the manufacturer's recommended specifications for readjustment. The pushrod stroke on the right rear brake was just about in need of readjustment, and the pushrod stroke on the right front brake could not be determined because of the damage. All of the brakes examined showed evidence of high heat, wear ridges in the drums, and grease and cracking in some of the brake lining rivet holes. The air compressor was tested and found to function properly.

The Safety Board is concerned about the poor mechanical condition of the bus brakes. If the brakes had been in good operating condition, the busdriver

1/ For more detailed information, read Highway Accident/Incident Summary Reports--"Near Ackerly, Texas, July 20, 1985; Eureka Springs, Arkansas, September 13, 1985; and Bramwell, West Virginia, October 13, 1985" (NTSB/HAR-87/01/SUM).

2/ The length of the pushrod stroke at which readjustment is recommended varies with the size of the brake chamber. When adjusted, all air-mechanical clamp-type service brake chambers should be adjusted to the shortest possible length without causing the brake to drag.

would have been able to reduce the speed of the bus by braking, making it easier to downshift and maintain control of the bus. The Bible Institute had no systematic maintenance program for inspecting and maintaining the bus.

Between 1974 and 1984, the Safety Board investigated 10 accidents involving private activity buses not engaged in "for hire" operations. Church-owned buses were involved in 7 of the 10 accidents, which resulted in 29 fatalities and nearly 171 injuries. The mechanical condition of the bus was determined to be a causal factor in 4 of the 10 accidents. 3/

Many of the activity buses involved in these accidents had already been retired from service from one or more carriers because of their substantial mileage and age and had been scheduled for replacement. The buses were then purchased used by private organizations and returned to service. Because of the condition of the retired buses, inspection and maintenance should be performed more frequently to keep them mechanically safe. However, the Safety Board found that inspection and maintenance is usually performed on an "as needed" basis only. The Safety Board believes that private organizations should implement structured inspection and maintenance programs to ensure that all aspects of the vehicles they operate are in good mechanical condition.

The use of folding chairs did not produce serious injuries in this accident. However, the Safety Board believes that owners of vehicles, such as the accident bus, should not use folding chairs inside buses because of the potential to cause serious injury to occupants during accidents and during abrupt stops or turns. Because folding chairs are not permanently attached to the floor, they will not provide any restraining forces to retain occupants in their seating positions during a crash situation. Further, in the event of an accident, objects, such as detached folding chairs, can become moving projectiles which can injure occupants and become a hindrance to egress.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the Ozark Christian School, Inc.:

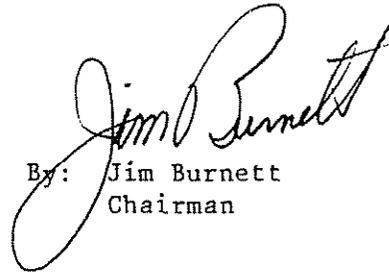
Establish a systematic vehicle inspection and preventive maintenance program for all School/Institute owned and operated vehicles to reduce the likelihood of mechanical failure. Place particular emphasis on the critical safety items, such as components in the brakes, tires, suspension, and steering systems. (Class II, Priority Action) (H-87-4)

Discontinue the use of folding chairs onboard buses during trips. (Class II, Priority Action) (H-87-5)

3/ For details of the 10 accidents, read Highway Accident Report--"Activity Bus/Tractor-Cargo Tank Semitrailer Collision, State Route 61, Near Devers, Texas, December 23, 1983" (NTSB/HAR-84/06).

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "... to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations H-87-4 and -5 in your reply.

BURNETT, Chairman, and LAUBER and NALL, Members, concurred in these recommendations. GOLDMAN, Vice Chairman, did not participate.



By: Jim Burnett
Chairman

